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ABSTRACT

To assess behavioral change in the speech of students, a test was developed which used the prior subjective experiences of teachers as a foundation for comparing student behaviors, and objectivized these experiences by developing a rating system upon which teacher observations could be scaled. Twenty raters--10 experienced and 10 inexperienced--were selected, trained, and divided into two groups. Sets of four raters then observed randomly-selected classrooms at the elementary and secondary levels for two rating periods. Results of data indicated that no statistical differences existed between judges' measurements in any of the class levels and that judges' measurements were reliable indices of communicative behavior. It was concluded that this method (1) can provide educators with a reliable means of assessing the attainment of behavioral change, (2) may function more reliably on the secondary level than on the elementary level, (3) prepares outside observers for measuring changes, and (4) is not limited to measuring change in oral communication, but may be applied to any classroom, industry, or organizational structure where behavior is the object of measurement. (JM)

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RATING SPEECH BEHAVIOR CHANGE OF STUDENTS: OBJECTIVIZING SUBJECTIVE JUDGMENTS

by

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TE 002 363

When the behavioral scientist studies human behavior he is concerned with the internal and/or external aspects of what men do and do not do. In this article I will restrict the meaning of behavior and behavior change to include only response or movement which is observable to the individual making the judgment of change, e.g., a teacher views a student responding differently to the same stimulus after a unit of instruction.

In the field of speech, teachers are concerned with both the behavior of students at one point in time, e.g., a student's behavior or performance during an informational speech, and a change in behavior manifested by students over a period of time, i.e., a student's behavior in speaking situations should change as a result of a particular course of instruction. While rating forms, check sheets, and numerous grading procedures have been utilized for assessing student behavior, these methods have not always proven highly reliable even in laboratory situations. The aforementioned behavioral measures were developed and utilized for measuring behavior at one point in time and their reliability may be influenced by extending the time between measurements. The purpose of this article is threefold: 1. to explain a method for assessing, reliably, the behavioral change of speech students. The method was developed for measuring behavioral change and not measurement of behavior at one point in time. It was concerned with

creating consistency in change score measurements; 2. to present the results of research conducted utilizing this measurement procedure; 3. to illuminate possible implications of this methodology for measuring behavioral change.

METHOD AND PROCEDURES

Method

Because a teacher's perceptual field of the communicative process is the sum or product of his experiences with communication encounters, each teacher views students' communicative behaviors differently. When rating student behavior teachers use both the measuring instrument, e.g., rating forms, and prior experiences in making their judgments. The evaluation of student behavior is in part a reflection of the teacher's experiences. Differences in speech behavior as rated by two teachers may reflect differences in teachers' perceptions, rather than behavioral differences among students. The individual teacher when evaluating a student's communicative behavior may rate differently at two rating periods because of changes occuring within his own perceptual field, rather than any student behavioral change. The teachers' perceptual field becomes the primary measuring instrument in rating behavior. The rating form used by the teacher only fixes subjective categories to which teacher bias is applied. The instruments commonly used to judge behavior make no attempt to control the influence of the measurers perceptual field during the measurement process. The method under discussion attempts to control the influence of a teacher's perceptual field upon the evaluation process.

When using this method the teacher becomes the measuring instrument because his experiences are used for evaluating student behavior. The teacher anchors his behavioral experiences on a forced-choice continuum. The continuum represents a distribution of particular behaviors, e.g.,

communicative behaviors, and categories or groupings of related behaviors are positioned on the continuum, e.g., poor communicative behaviors could represent an end category on a continuum of behaviors associated with communicative effectiveness. The teacher selects an individual from his experience who demonstrated the category of behaviors. The individual symbolizing the category of behaviors serves as a permanent anchor throughout the evaluation process. To extend our earlier example, if a teacher anchors the poor communicative behaviors, he selects an individual from his experience whose behaviors correspond to those in the poor communicative behavior category. This individual becomes the image for that category during the rating period. The procedure of anchoring image persons to categories is repeated for each category along the behavioral continuum, e.g., in this study five categories of behaviors associated with communicative effectiveness were anchored by the raters.

To measure student behavior the teacher compares the individual anchors to each student's communicative behavior. Subsequent evaluations by the teacher utilize the same anchors on the continuum. Thus students rated can move up or down along the continuum and a measurement of behavioral change can be made. The method is subjective because it uses the prior experiences of teachers as bases for comparing student behaviors, but it objectivizes the teacher's rating system by providing a consistent scale for his observations over a period of time.

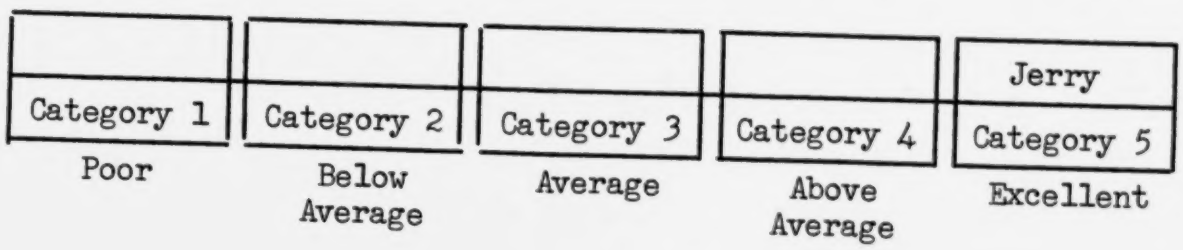
Procedures

The method was tested in both the elementary and secondary level. Eight classes, two eighth (28 Ss each) and two eleventh (21 Ss) were randomly selected for testing on the secondary level, two second (24 Ss each) and

~~fifty~~ (26 Ss each) were randomly selected on the elementary level. Twenty raters were selected and divided into two groups. One group labeled experienced judges contained ten raters having teaching experience and a major/minor in speech. A second group labeled inexperienced judges contained ten raters without prior speech courses or teaching experience. Two experienced and two inexperienced judges were randomly selected for each class level.

Raters were trained in the methods use at a special laboratory conducted at Pennsylvania State University. A five category scale of "communicative behavior" was used to test the method. "Communicative behavior" was defined as any observable behavior manifested by students during an oral communicative situation in the classroom. A list of communicative behaviors characteristic of the subjects tested was collected from a survey conducted during a Title III, Area J, Oral Communications Summer Institute under the guidance of Dr. Gerald M. Phillips. During the training period, judges were instructed to anchor five categories, poor, average, excellent, above-average, and below average, drawn from the survey. Fig. 1 illustrates the scale categories used as anchor points in the study. For example, Jerry represents the anchor or image person in the judge's perceptual field who has demonstrated the behaviors in the category labeled "excellent communicative behaviors." Jerry's image is used by the judge to compare with students' actual behavior during the rating period.

Fig. 1



Category Anchor Points on the Scale

Each set of four judges observed a randomly selected classroom for two rating periods. Six weeks elapsed between the initial and final rating periods. During the six week interval teachers were asked not to vary their usual classroom procedures. All teachers on the secondary level and two on the elementary level utilized for the test were trained in the use of oral communication techniques in the classroom and had begun implimenting the techniques prior to the judges first observations. In addition the teachers were not told the actual purpose of the research. The judges were not retrained after the first rating period or given an opportunity to review their initial ratings. The difference score between the judges' two ratings of a student's communicative behavior constituted the behavioral change index.

Hypotheses

Two hypotheses were tested in this study:

1. There are differences between experienced and inexperienced judges' measurement of communicative behavioral change.
2. There are significant similarities among the four raters' measurements of students' communicative behavioral change.

Hypothesis one was tested using a one factor analysis of variance-repeated measures to find if experienced judges rated behavioral change differently than inexperienced judges. Hypothesis two tested if the judges' behavioral change measurements were related and, thus, reliable indices of behavioral change. An intra-class correlation coefficient calculated from a one factor analysis of variance repeated measures tested the similarities of change scores.

Results

Table 1 illustrates the statistical results of hypotheses one and two. Because judge and student mortality rates exceeded acceptable limits, the

data in one eleventh grade class was not analyzed. The results of the test for hypothesis one in the remaining seven classes indicated no significant differences between judges' measurements in any of the class levels, i.e., no statistically significant differences existed between experienced and inexperienced judges. Hypothesis one was not supported. The results of the test for hypothesis two indicate judges mean reliability ranging from .85 to a low .24. Judges' reliability on the secondary level exceeded those on the elementary level in all but one classroom. The results support hypothesis two in all but two elementary classes. The judges' measurements were reliable indices of "communicative behavior" change.

TABLE 1

Rater Reliability

Elementary				Secondary			
Class Level	MS	F	r	Class Level	MS	F	r
2 - A	1.97		.75	8 - A	1.66		.79
B	.49			B	.35		
C	.35	.71*		C	.07	.19*	
D	.49			D	.36		
2 - A	1.06		.24	8 - A	1.64		.85
B	.80			B	.24		
C	.15	.18*		C	.40	1.74*	
D	.85			D	.23		
5 - A	.94		.60	11 - A	.35		.70
B	.27			B	.11		
C	.20	.54*		C	.30	3.0*	
D	.37			D	.10		
5 - A	.66		.44	11 - Not analyzed due to judge and subject mortality			
B	.37						
C	.20	.52*					
D	.38						

A = between subjects
B = within subjects
C = between judges
D = residual

* nonsignificant at .05 level

Discussion

The results appear to confirm that the method can provide educators with a reliable means for assessing the attainment of behavioral change. By transforming educational objectives into their behavioral counterparts the educator can use the method to measure students' change in behavior, hence achievement of the objectives. The students' behavioral change, or lack of it, could reflect the success or failure of a particular teaching method.

The results indicate that the method may function more reliably on the secondary level. This may be attributed to three factors. First, raters may find it easier to develop anchors from experiences with secondary level students. Second, the communicative behaviors manifested on the elementary level may not be as easily categorized as those on the secondary level. Third, the two classes in which the reliabilities were particularly low were both taught by teachers who restricted their students' communicative behavior, thus, restricting the entire rating process.

The method prepares outside observers for measuring change in the classroom. The only prerequisite to being a rater is that one have a minimum of experience with the behavior, otherwise, the creation of anchor images will be impossible. Disinterested observers, consultants, and students, can now be trained to make consistent judgments, e.g., students could observe other students and these ratings could be compared; teachers, disinterested observers, and consultants can evaluate classroom processes and make the proper response; teacher and peer ratings can be compared.

The method is, of course, not limited to measuring change in oral communicative behavior. It is applicable to any classroom, industry, or organizational situation where behavior is the object of measurement. If

the behaviors can be positioned on a continuum, they are amenable to measurement. The behavior measured can be either general or specific depending on the needs of the teacher. It is possible that several behavioral objectives can be measured at one time, e.g., anxiety, attentiveness, verbal structure. Teachers may discover that behaviors have differing rates of change and related behaviors need differing strategies to produce optimum behavioral change.

The timing of measurement is flexible. Teachers can rate students at any desired time. Thus, teachers can assess both long range and short term effects of their teaching practices. The flexibility enables teachers to alter their strategies when rating results indicate that desired changes are not occuring. The flexibility may also illustrate that students' behavioral change occurs at specific intervals during the use of a particular teaching strategy.

There appear to be three limitations to the use of this methodology. First, if the behavioral categories are not sufficiently specific, the raters may find it difficult to develop anchor images. Second, raters totally unfamiliar with the behaviors to be measured would find it impossible to establish anchor images because they could not derive individuals from their experience to serve as anchor points. Third, the method assumes that behaviors in a category will remain constant throughout the rating periods. Certain observable behaviors cannot be rated because they are specific to the situation being rated, e.g., audience adaptation. The method measures change in behavior over a period of time and place. If the behaviors along the continuum are constantly changing their relative position, it would be incorrect to attempt an application of this method.